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REMARKS/ARGUMENTS

Claims 1-19 are pending in this Application.

Claims 1-7, 9-16, and 18-19 were rejected under 35 U.S.C. § 102(e) as being anticipated by Nishizawa et al. (U.S. 6,469,593). Claims 8 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishizawa in view of Furukawa (U.S. 6,262,513). Applicant respectfully traverses the rejections of claims 1-19.

Claim 1 recites:

“A surface acoustic wave device comprising:
a package having a linear thermal expansion coefficient;
a plurality of metal bumps; and
a piezoelectric substrate bonded to the package via the plurality of metal bumps;

wherein the piezoelectric substrate has different linear thermal expansion coefficients in two different directions of a bonding surface of the piezoelectric substrate on which the plurality of metal bumps are provided; and

the maximum distance between the metal bumps arranged in a direction in which the piezoelectric substrate and the package have a greater difference between the linear thermal expansion coefficients is less than the maximum distance between the metal bumps arranged in another direction in which the piezoelectric substrate and the package have a smaller difference between the linear thermal expansion coefficients.” (emphasis added)

Applicant's claim 1 recites the feature of “the maximum distance between the metal bumps arranged in a direction in which the piezoelectric substrate and the package have a greater difference between the linear thermal expansion coefficients is less than the maximum distance between the metal bumps arranged in another direction in which the piezoelectric substrate and the package have a smaller difference between the linear thermal expansion coefficients.” Applicant's claim 11 recites features that are similar to features recited in Applicant's claim 1, including the above emphasized features. With the improved features of claim 1 and claim 11, Applicant has been able to greatly reduce the stress produced in the bonded portion between a

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surface acoustic wave element and an electronic component package due to temperature changes (see, for example, the last full paragraph on page 3 of the Specification, as originally filed).

The Examiner has alleged in paragraph no. 2 of the outstanding Office Action that Nishizawa et al. teaches each and every feature recited in Applicant's claims 1 and 11. However, Nishizawa et al. teaches that the long side Lz of the piezoelectric substrate 1 has a thermal expansion coefficient closer to the package 2, NOT that the maximum distance between the metal bumps arranged in a direction in which the piezoelectric substrate and the package have a greater difference between the linear thermal expansion coefficients is less than the maximum distance between the metal bumps arranged in another direction in which the piezoelectric substrate and the package have a smaller difference between the linear thermal expansion coefficients as recited in Applicant's claims 1 and 11.

That is, Nishizawa et al. teaches a relationship between the differences in thermal expansion coefficients between the piezoelectric substrate and the package in two directions and the sides of the piezoelectric substrate and does not teach or suggest any relationship between the differences in thermal expansion coefficients between the piezoelectric substrate and the package in two directions and the maximum distance between metal bumps in those two directions. In fact, Nishizawa et al. fails to teach or suggest anything at all about the specific location and arrangement of the metal bumps or any specific distances therebetween, and certainly fails to teach or suggest the maximum distances between the metal bumps as recited in the present claimed invention.

Thus, contrary to the Examiner's allegations, Nishizawa et al. fails to teach or suggests the feature of "the maximum distance between the metal bumps arranged in a direction in which the piezoelectric substrate and the package have a greater difference between the linear thermal expansion coefficients is less than the maximum distance between the metal bumps arranged in another direction in which the piezoelectric

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substrate and the package have a smaller difference between the linear thermal expansion coefficients" as recited in Applicant's claims 1 and similarly in Applicant's claim 11.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 and 11 under 35 U.S.C. § 102(e) as being anticipated by Nishizawa et al.

The Examiner has relied upon Furukawa to allegedly cure various deficiencies in Nishizawa et al. However, Furukawa clearly fails to teach or suggest the feature of "the maximum distance between the metal bumps arranged in a direction in which the piezoelectric substrate and the package have a greater difference between the linear thermal expansion coefficients is less than the maximum distance between the metal bumps arranged in another direction in which the piezoelectric substrate and the package have a smaller difference between the linear thermal expansion coefficients" as recited in Applicant's claims 1 and similarly in Applicant's claim 11.

Accordingly, Applicant respectfully submits that Nishizawa et al. and Furukawa, applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 11 of the present application. Claims 2-10 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable. Claims 12-19 depend upon claim 11 and are therefore allowable for at least the reasons that claim 11 is allowable.

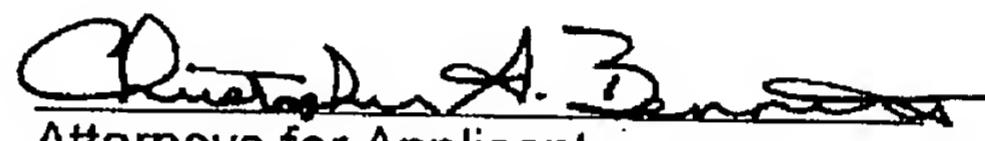
In view of the foregoing remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

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The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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